

University of Groningen

Standardisation and harmonisation of quantitative oncology PET/CT studies

Kaalep, Andres

DOI:
[10.33612/diss.122708993](https://doi.org/10.33612/diss.122708993)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2020

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Kaalep, A. (2020). *Standardisation and harmonisation of quantitative oncology PET/CT studies*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.
<https://doi.org/10.33612/diss.122708993>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

1. Taking part in a PET/CT accreditation program increases accuracy and precision of quantitative imaging in your department. This thesis, chapter 2
2. Regardless of manufacturer or model, all PET/CT systems studied in this thesis are able to comply with EARL1 specifications. This thesis, chapter 2
3. State-of-the-art acquisition and reconstruction technologies of new PET/CT systems increase variability of quantitative results if not properly taken into account. This thesis, chapter 3
4. A single EARL2 reconstruction may be applied rather than separate reconstructions for quantification and lesion detection. This thesis, chapter 3
5. SUVpeak and TLG may still provide comparable quantitative results between PET/CT systems in which the contrast recovery performance is unknown. This thesis, chapters 3 and 4
6. Existing standards for quantitative PET/CT performance need to evolve with and accommodate new and emerging technologies. This thesis, chapter 4
7. Regardless of manufacturer or model, all modern PET/CT systems investigated in this thesis are able to comply with EARL2 standards while enabling backwards compatibility with EARL1. This thesis, chapter 4
8. EARL2 standards will lead to increased image contrasts and SUVs regardless disease. This thesis, chapter 4
9. Harmonisation of quantitative PET/CT performances for isotopes other than F-18 is feasible and may be more easily achieved when previous accreditations are already in place. This thesis, chapter 5
10. The pessimist sees difficulty in every opportunity. The optimist sees opportunity in every difficulty. Winston Churchill